

CLAIMS

What is claimed is:

1. A recording apparatus for use with a reproduction-only optical information storage medium, comprising:
 - a recording unit which records data on the reproduction-only optical information storage medium; and
 - a controller which:
 - controls the recording unit to form a plurality of areas on the reproduction-only optical storage medium, and
 - controls the recording unit to form at least one transition area between two adjacent areas.
2. The apparatus of claim 1, wherein data is recorded in the form of pits in the areas and the transition area.
3. The apparatus of claim 2, wherein a pit pattern of the transition area is the same as a pit pattern of an area preceding the transition area.
4. The apparatus of claim 2, wherein a pit pattern of the transition area is the same as a pit pattern of an area following the transition area.
5. The apparatus of claim 1, wherein the transition area is a mirror area.
6. The apparatus of claim 2, wherein pits of the transition area are formed in one of a straight pattern and a wobbling pattern.
7. The apparatus of claim 6, wherein the straight pattern is one of a straight single pattern, a straight specific pattern, and a straight random pattern.
8. The apparatus of claim 6, wherein the wobbling pattern is one of a wobbling single pattern, a wobbling specific pattern, and a wobbling random pattern.

9. The apparatus of claim 2, wherein a track pitch of pits in the transition area is the same as track pitches of pits in the adjacent areas.

10. The apparatus of claim 4, wherein the track pitch of pits in the transition area and the track pitches of pits in the adjacent areas differ.

11. The apparatus of claim 4, wherein the track pitch of pits in the transition area are the same as the track pitch of pits in one of the adjacent areas.

12. The apparatus of claim 10, wherein the track pitch of pits formed in the transition area gradually one of increases and decreases from the track pitch of pits formed in of the area preceding the transition area to the track pitch of pits formed in the area following the transition area.

13. The apparatus of claim 6, wherein when pits for the transition area is formed in a wobbling pattern, the amplitude of a wobble gradually decreases or increases.

14. The apparatus of claim 1, wherein the transition area stores information identifying a transition area.

15. An apparatus for use with a reproduction-only optical information storage medium, comprising:

a recording unit which records data on the reproduction-only optical information storage medium; and

a controller which controls the recording unit to form, on the reproduction-only optical information storage medium, a burst cutting area (BCA), a lead-in area, a user data area, a lead-out area, and a transition area located in at least one of an area between the BCA and the lead-in area, an area between the lead-in area and the user data area, and an area between the user data area and the lead-out area,

wherein the BCA, the lead-in area, the user data area, and the lead out area are formed of pits.

16. The apparatus of claim 15, wherein a first transition area is included between the BCA and the lead-in area, and the BCA, the lead-in area, and the first transition area are each formed of pits in one of a straight pattern and a wobbling pattern.

17. The apparatus of claim 15, wherein a second transition area is included between the lead-in area and the user data area, and the lead-in area, the user data area, and the second transition area are each formed of pits on one of a straight pattern and a wobbling pattern.

18. The apparatus of claim 17, wherein the straight pattern is one of a straight single pattern, a straight specific pattern, and a straight random pattern.

19. The apparatus of claim 17, wherein the wobbling pattern is one of a wobbling single pattern, a wobbling specific pattern, and a wobbling random pattern.

20. The apparatus of claim 16, wherein a track pitch of pits formed in the BCA, a track pitch of pits formed in the first transition area, a track pitch of pits formed in the lead-in area are the same.

21. The apparatus of claim 16, wherein a track pitch of pits formed in the BCA, a track pitch of pits formed in the first transition area, a track pitch of pits formed in the lead-in area are different from one another.

22. The apparatus of claim 21, wherein the track pitch of pits formed in the first transition area gradually one of increases and decreases from the track pitch of pits formed in the BCA to the track pitch of pits formed in the lead-in area.

23. The apparatus of claim 17, wherein a track pitch of pits formed in the lead-in area, a track pitch of pits formed in the second transition area, a track pitch of pits formed in the user data area are the same.

24. The apparatus of claim 17, wherein a track pitch of pits formed in the lead-in area, a track pitch of pits formed in the second transition area, a track pitch of pits formed in the user data area are different.

25. The apparatus of claim 24, wherein the track pitch of pits formed in the second transition area gradually increases or decreases from the track pitch of pits formed in the lead-in area to the track pitch of pits formed in the user data area.

26. The apparatus of claim 16, wherein when pits for the first transition area are formed in a wobbling pattern, the amplitude of a wobble gradually one of decreases and increases.

27. The apparatus of claim 17, wherein when pits for the second transition area are formed in a wobbling pattern, the amplitude of a wobble gradually decreases or increases.

28. The apparatus of claim 17, wherein each of the first and second transition areas stores information identifying the corresponding transition area.

29. An apparatus for use with a reproduction-only optical information storage medium, comprising:

a recording unit which records data on the reproduction-only optical information storage medium; and

a controller which controls the recording unit to form, on the reproduction-only optical information storage medium, a burst cutting area (BCA), a lead-in area, a user data area, a lead-in area, and a transition area,

wherein at least one of the BCA, the lead-in area, the user data area, and the lead-out area is divided into a plurality of sub-areas, and

wherein the transition area is located between two adjacent sub-areas.

30. The apparatus of claim 29, wherein pits for the sub-areas and pits for transition area are each formed in a straight pattern or a wobbling pattern.

31. The apparatus of claim 30, wherein the straight pattern is one of a straight single pattern, a straight specific pattern, and a straight random pattern.

32. The apparatus of claim 30, wherein the wobbling pattern is one of a wobbling single pattern, a wobbling specific pattern, and a wobbling random pattern.

33. A reproducing apparatus for use with a reproduction-only optical information storage medium, comprising:

 a reading unit which reproduces data from the reproduction-only optical information storage medium; and

 a controller which:

 controls the reading unit to reproduce data from a plurality of areas on the reproduction-only optical storage medium, and

 controls the reading unit to reproduce data from at least one transition area located between two adjacent areas.

34. A reproducing apparatus for use with a reproduction-only optical information storage medium, comprising:

 a reading unit which reproduces data from the reproduction-only optical information storage medium; and

 a controller which:

 controls the reading unit to reproduce data from at least one of a burst cutting area (BCA), a lead-in area, a user data area, and a lead-out area of the reproduction-only optical storage medium, and

 controls the reading unit to reproduce data from a transition area located in at least one of an area between the BCA and the lead-in area, an area between the lead-in area and the user data area, and an area between the user data area and the lead-out area,

 wherein the BCA, the lead-in area, the user data area, and the lead out area are formed of pits.

35. A reproducing apparatus for use with a reproduction-only optical information storage medium, comprising:

 a reading unit which reproduces data from the reproduction-only optical information storage medium; and

 a controller which:

 controls the reading unit to reproduce data from at least one of a burst cutting area (BCA), a lead-in area, a user data area, and a lead-in area of the reproduction-only optical storage medium, and

controls the reading unit to reproduce data from a transition area of the reproduction-only optical storage medium,

wherein at least one of the BCA, the lead-in area, the user data area, and the lead-out area is divided into a plurality of sub-areas, and

wherein the transition area is located between two adjacent sub-areas.

36. A recording and reproducing apparatus for use with a read-only optical information storage medium having a plurality of areas, comprising:

a recording and reading unit which records data in and reads data from a plurality of areas; and

a controller which:

controls the recording and reading unit to form a plurality of areas and at least one transition area on the reproduction-only optical storage medium, and

controls the recording and reading unit to read data from the least one of the plurality of areas and one of the at least one transition area,

wherein each transition area is located between two adjacent areas.

37. A recording and reproducing apparatus for use with a read-only optical information storage medium having a plurality of areas, comprising:

a recording and reading unit which records data in and reads data from a plurality of areas; and

a controller which:

controls the recording and reading unit to form, on the reproduction-only optical storage medium, a burst cutting area (BCA), a lead-in area, a user data area, a lead-out area, and a transition area located in at least one of an area between the BCA and the lead-in area, an area between the lead-in area and the user data area, and an area between the user data area and the lead-out area, and

controls the recording and reading unit to read data from at least one of the burst cutting area (BCA), the lead-in area, the user data area, the lead-out area, and the transition area,

wherein the BCA, the lead-in area, the user data area, and the lead out area are formed of pits.

38. A recording and reproducing apparatus for use with a read-only optical information storage medium having a plurality of areas, comprising:

 a recording and reading unit which records data in and reads data from a plurality of areas; and

 a controller which:

 controls the recording and reading unit to form, on the reproduction-only optical storage medium, a burst cutting area (BCA), a lead-in area, a user data area, a lead-in area, and a transition area, and

 controls the recording and reading unit to read data from the transition area and at least one of the burst cutting area (BCA), the lead-in area, the user data area, and the lead-in area,

 wherein at least one of the BCA, the lead-in area, the user data area, and the lead-out area is divided into a plurality of sub-areas, and

 wherein the transition area is located between two adjacent sub-areas.